



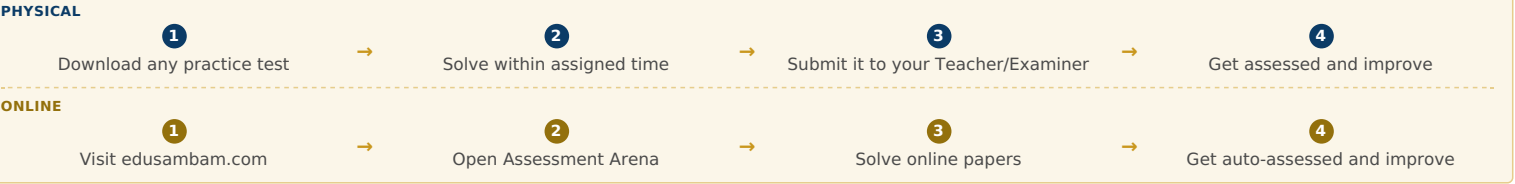
EDUSAMBAM ASSESSMENT SERIES

Computer Vision & Recommendation Systems

PRINTABLE PRACTICE WORKSHEET

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YOUR PHYSICAL & ONLINE SELF-ASSESSMENT ROADMAP



|                       |  |              |  |
|-----------------------|--|--------------|--|
| Candidate Name:       |  | Roll No.:    |  |
| Class / Grade:        |  | Date:        |  |
| School / Institution: |  | Test Centre: |  |

|                 |                              |              |                                          |             |     |
|-----------------|------------------------------|--------------|------------------------------------------|-------------|-----|
| Subject         | Artificial Intelligence (AI) | Topic        | Computer Vision & Recommendation Systems | Total Marks | 100 |
| Total Questions | 45                           | Time Allowed | 1 Hour (60 minutes)                      | Version     | A   |

GENERAL INSTRUCTIONS

1. Read each question carefully before answering.
2. For Section A and Section B, mark one answer only.
3. For Sections C and E, write your answer clearly in the space provided.
4. For Section D, write the correct letter from Column B against each item in Column A.
5. Do not use correction fluid. Keep all answers clear and legible.
6. This worksheet is prepared from the EDUSAMBAM practice assessment supplied for this paper.

PAPER PATTERN

| Section                       | Questions | Marks Each | Total |
|-------------------------------|-----------|------------|-------|
| Section A — Multiple Choice   | 15        | 2          | 30    |
| Section B — True / False      | 10        | 2          | 20    |
| Section C — Fill in the Blank | 10        | 2          | 20    |
| Section D — Column Matching   | 5 pairs   | 2          | 10    |
| Section E — Short Answer      | 5         | 4          | 20    |
| Total                         | 45        | —          | 100   |

Section A — Multiple Choice

30 marks

1. What is computer vision?

A. A type of computer monitor

B. The field of AI that enables computers to interpret and understand visual information

C. A brand of camera lens

D. Software for editing spreadsheets

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

2. What is "object detection" in computer vision?

A. Deleting unwanted files from a folder

B. Repairing a broken camera

C. Identifying and locating specific objects within an image

D. Compressing an image file

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

3. How does computer vision typically analyse an image?

A. By examining pixels and learned patterns to recognise features

B. By printing the image and reading it manually

C. By asking a human to describe it every time

D. By ignoring the image content entirely

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

4. What is a convolutional neural network (CNN) commonly used for?

A. Sending emails

B. Processing and analysing image data

C. Formatting text documents

D. Managing a computer's power supply

Answer: ☐A ☐B ☐C ☐D

Basic • 2 pts

5. Which of these is a real-world application of computer vision?

A. A basic text editor

B. A plain calculator app

C. A USB flash drive

D. A self-driving car recognising road signs and pedestrians

Answer: ☐A ☐B ☐C ☐D

Intermediate • 2 pts

|                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. What is facial recognition?<br><b>A.</b> A method of encrypting files<br><b>C.</b> Identifying a person's identity from an image of their face<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                              | <b>B.</b> A way to compress video<br><b>D.</b> A type of computer password<br><b>Intermediate · 2 pts</b>                                                         |
| 7. What can make computer vision less accurate?<br><b>A.</b> Poor lighting or unusual camera angles<br><b>C.</b> Having too much storage space<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                                 | <b>B.</b> Using a faster internet connection<br><b>D.</b> Using a newer keyboard<br><b>Intermediate · 2 pts</b>                                                   |
| 8. What is a recommendation system?<br><b>A.</b> A system that repairs broken software<br><br><b>C.</b> A type of computer virus<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                                               | <b>B.</b> A system that suggests content or products based on user data and preferences<br><b>D.</b> A tool for managing passwords<br><b>Intermediate · 2 pts</b> |
| 9. What do recommendation systems typically base their suggestions on?<br><b>A.</b> Random selection with no data involved<br><b>C.</b> A user's past behaviour, preferences, and activity<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                     | <b>B.</b> The weather forecast<br><b>D.</b> The device's battery level<br><b>Intermediate · 2 pts</b>                                                             |
| 10. What is "collaborative filtering"?<br><b>A.</b> Recommending items based on what similar users liked<br><b>C.</b> Sorting files by date only<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                               | <b>B.</b> Deleting duplicate files<br><b>D.</b> Blocking spam emails<br><b>Intermediate · 2 pts</b>                                                               |
| 11. What is "content-based filtering"?<br><b>A.</b> Blocking inappropriate content automatically<br><b>C.</b> Filtering out low-quality images<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                                 | <b>B.</b> Recommending items similar to what a user has liked before<br><b>D.</b> Removing viruses from a file<br><b>Intermediate · 2 pts</b>                     |
| 12. Which platforms commonly use recommendation systems?<br><b>A.</b> A basic calculator app<br><b>C.</b> A basic alarm clock app<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                                              | <b>B.</b> A plain text file viewer<br><b>D.</b> Streaming services like Netflix and Spotify<br><b>Advanced · 2 pts</b>                                            |
| 13. Which type of data do recommendation systems typically use?<br><b>A.</b> Watch history, ratings, and past purchases<br><b>C.</b> Only the device's screen brightness<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                       | <b>B.</b> Only the current date and time<br><b>D.</b> The colour of the app icon<br><b>Advanced · 2 pts</b>                                                       |
| 14. What is the main purpose of a recommendation system?<br><b>A.</b> To slow down the user's browsing<br><b>C.</b> To delete a user's account<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D                                                                                                 | <b>B.</b> To personalise suggestions and help users discover relevant content<br><b>D.</b> To increase a device's battery life<br><b>Advanced · 2 pts</b>         |
| 15. Which of these best describes how computer vision and recommendation systems are similar?<br><b>A.</b> They are exactly the same technology<br><b>C.</b> Both are AI applications that learn patterns from data to make useful predictions<br><b>Answer:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | <b>B.</b> Neither uses any data at all<br><b>D.</b> Both only work without an internet connection<br><b>Advanced · 2 pts</b>                                      |

Section B — True / False

20 marks

|                                                                                                                                                                                                 |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 16. Computer vision enables computers to interpret and understand visual information from images and video.<br><b>A.</b> True <input type="checkbox"/> <b>B.</b> False <input type="checkbox"/> | <b>Basic · 2 pts</b>        |
| 17. Computer vision cannot be used in self-driving cars.<br><b>A.</b> True <input type="checkbox"/> <b>B.</b> False <input type="checkbox"/>                                                    | <b>Basic · 2 pts</b>        |
| 18. Convolutional neural networks (CNNs) are commonly used for processing image data.<br><b>A.</b> True <input type="checkbox"/> <b>B.</b> False <input type="checkbox"/>                       | <b>Basic · 2 pts</b>        |
| 19. Facial recognition is completely unrelated to computer vision.<br><b>A.</b> True <input type="checkbox"/> <b>B.</b> False <input type="checkbox"/>                                          | <b>Basic · 2 pts</b>        |
| 20. Recommendation systems suggest content based on a user's data and behaviour.<br><b>A.</b> True <input type="checkbox"/> <b>B.</b> False <input type="checkbox"/>                            | <b>Intermediate · 2 pts</b> |

21. Collaborative filtering recommends items based on what similar users liked.  
A. True ☐ B. False ☐

22. Content-based filtering completely ignores what a user has liked in the past.  
A. True ☐ B. False ☐

23. Netflix and Spotify both use recommendation systems to personalise suggestions.  
A. True ☐ B. False ☐

24. Lighting and camera angle can affect the accuracy of computer vision systems.  
A. True ☐ B. False ☐

25. Recommendation systems never use a user's past behaviour or history.  
A. True ☐ B. False ☐

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section C — Fill in the Blank

20 marks

26. \_\_\_\_\_ vision is the field of AI that enables computers to interpret and understand visual information.  
Answer: \_\_\_\_\_

27. \_\_\_\_\_ detection identifies and locates specific objects within an image.  
Answer: \_\_\_\_\_

28. \_\_\_\_\_ recognition identifies a person's identity from an image of their face.  
Answer: \_\_\_\_\_

29. A \_\_\_\_\_ neural network (CNN) is commonly used to process image data.  
Answer: \_\_\_\_\_

30. A \_\_\_\_\_ system suggests content or products based on user data and preferences.  
Answer: \_\_\_\_\_

31. \_\_\_\_\_ filtering recommends items based on what similar users liked.  
Answer: \_\_\_\_\_

32. \_\_\_\_\_-based filtering recommends items similar to what a user has liked before.  
Answer: \_\_\_\_\_

33. Recommendation systems analyse past \_\_\_\_\_ such as watch history and ratings.  
Answer: \_\_\_\_\_

34. Streaming platforms such as Netflix use recommendation systems to suggest \_\_\_\_\_.  
Answer: \_\_\_\_\_

35. Factors such as lighting and camera \_\_\_\_\_ can affect computer vision accuracy.  
Answer: \_\_\_\_\_

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Basic · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Intermediate · 2 pts

Section D — Column Matching

10 marks

36-40. Match each term to its correct definition.

| Column A                | Answer | Column B                                                                                               |
|-------------------------|--------|--------------------------------------------------------------------------------------------------------|
| Computer Vision         | _____  | <b>A.</b> Identifying and locating specific objects within an image                                    |
| Object Detection        | _____  | <b>B.</b> Identifying a person's identity from an image of their face                                  |
| Facial Recognition      | _____  | <b>C.</b> Recommending items based on what similar users liked                                         |
| Collaborative Filtering | _____  | <b>D.</b> Recommending items similar to what a user has liked before                                   |
| Content-Based Filtering | _____  | <b>E.</b> The field of AI that enables computers to interpret visual information from images and video |

Section E — Short Answer

20 marks

41. What is computer vision?

Advanced · 4 pts

42. Give an example of a real-world application of computer vision.

Advanced · 4 pts

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43. What is the key difference between collaborative and content-based filtering?

Advanced · 4 pts

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44. Give an example of a platform that uses a recommendation system.

Advanced · 4 pts

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45. What kind of data do recommendation systems typically use?

Advanced · 4 pts

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**Candidate Signature:** \_\_\_\_\_ **Invigilator Signature:** \_\_\_\_\_

**FOR OFFICE USE ONLY**

Marks Obtained: \_\_\_\_\_ / 100

Checked By: \_\_\_\_\_

Result / Grade: \_\_\_\_\_

Date Checked: \_\_\_\_\_

**EDUSAMBAM ASSESSMENT SERIES**

## Computer Vision & Recommendation Systems — Answer Key

*Teacher reference: equivalent grammatically correct wording is acceptable for open-ended items when the meaning is preserved.*

### Section A — Multiple Choice

- |      |       |
|------|-------|
| 1. B | 9. C  |
| 2. C | 10. A |
| 3. A | 11. B |
| 4. B | 12. D |
| 5. D | 13. A |
| 6. C | 14. B |
| 7. A | 15. C |
| 8. B |       |

### Section B — True / False

- |           |           |
|-----------|-----------|
| 16. True  | 21. True  |
| 17. False | 22. False |
| 18. True  | 23. True  |
| 19. False | 24. True  |
| 20. True  | 25. False |

### Section C — Fill in the Blank

- |                    |                   |
|--------------------|-------------------|
| 26. computer       | 31. collaborative |
| 27. object         | 32. content       |
| 28. facial         | 33. behaviour     |
| 29. convolutional  | 34. content       |
| 30. recommendation | 35. angle         |

### Section D — Column Matching

- |                            |                                 |
|----------------------------|---------------------------------|
| 36. Computer Vision — E    | 39. Collaborative Filtering — C |
| 37. Object Detection — A   | 40. Content-Based Filtering — D |
| 38. Facial Recognition — B |                                 |

### Section E — Short Answer (Model Answers)

- 41.** image; visual; interpret; understand; video
- 42.** self-driving; medical; security; face; camera; photo; car
- 43.** similar users; similar items; other users; past likes; user; item
- 44.** netflix; spotify; amazon; youtube
- 45.** history; rating; click; behaviour; behavior; purchase; watch